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ABSTRACT

Investigated with six first- to third-grade teachers was the generalization of the use of teacher praising and approval skills in one daily instructional period into a second daily instructional period. As part of a general investigation of teacher management skills by the Program for Academic Survival Skills, the teachers were taught to use contingent approval statements as consequences for appropriate student behavior during either the reading or math period, and generalization of the level of approvals to another class period was evaluated using behavioral observations. Results indicated that the trained teachers did significantly improve the level of approvals occurring in the generalization setting; however, the effect was only one-third the magnitude produced by the same teachers during the training setting. (Author/IM)

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Generalization of Teacher Praising Skills Over Time and Setting: What You Teach is What You Get!

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Abstract

This study investigated the across setting generalization of teacher praising and approval skills. Six teachers were taught to use contingent approval statements as consequences for appropriate student behavior in one daily instructional period, e.g., reading or math. The degree to which praising skills generalized into a second daily instructional period was evaluated using behavioral observations. Results indicated that trained teachers did significantly improve the level of approvals occurring in the generalization setting; however, the effect was only one third the magnitude produced by the same teachers during the training setting. Two control teachers, receiving no training, showed no improvement in either setting.

Generalization of Teacher Praising Skills Over Time and Setting:

What You Teach is What You Get!

The study of the generalization of learned behavior has had a historical place in education and psychology but only recently has the topic attracted a more systematic interest from researchers. In the last decade, there has been an increasing concern with the generalization of skills taught subjects of behavioral interventions in classroom settings (Baer, Wolf, & Risley, 1968; Patterson, McNeal, Hawkins, & Phelps, 1967). Even more recent has been an interest in studying the generalized skills of the behavior change agent, e.g., classroom teachers (Corte, Wolf, & Locke, 1971; Garcia, 1974; Stokes, Baer, & Jackson, 1974). Gladstone and Sherman (1975) demonstrated that high school students taught to train retarded learners a specific skill could teach a different set of skills to other similar subjects without further training. A similar generalization effect could be demonstrated if a given teaching skill, e.g., the use of contingent praise for student behavior acquired in one instructional setting, could be demonstrated to carry over into other instructional periods. A recent study by Horton (1975) investigated just such a problem. While Horton concluded that no generalization occurred, the data presented indicated that for Teacher 1 generalization occurred in the four generalization periods. However, there was no systematic effect noted over time.

The present study sought to examine the effects of training the regular classroom teacher to use contingent praise as a consequence for appropriate group and individual student behavior. As in the Horton (1975) study, the degree to which these praising skills, taught in one daily academic instructional period and generalized to a second academic period in which the teacher was not directly taught or instructed by the trainer, was investigated. The

study was conducted as part of several generalization investigations of teacher management skills using a group behavior management program -- the Program for Academic Survival Skills (PASS). PASS (Greenwood, Hops, Delquadri, & Walker, Note 1) is a group behavior management program for academic related behavior (Greenwood, Hops, Delquadri, & Guild, 1974). The program is being developed by the Center at Oregon for Research in the Behavioral Education of the Handicapped (CORBEH).

Subject Selection

Eight classroom teachers, all female, from three elementary schools, participated in this investigation. The three first, three second, and two third grade classes ranged in size from 20-25 pupils each. The schools were located in two different school districts in the adjoining Eugene-Springfield, Oregon, area (pop. 130,000). Teachers were recruited for participation in the study by two PASS program consultants following a slide presentation of the Program for Academic Survival Skills (PASS) to the primary grade teacher. Teachers were required to have relatively self-contained classroom units (did not switch children or teachers), be responsible for class groups of 20-30 students, and be willing to implement the PASS program during either daily reading or mathematics instructional periods. Further, consultant observations of classroom group appropriate behavior must have been at least below the 75% level in both reading and math periods and teachers' rates of appropriate social consequences had to be below .80 per minute.

Instructional Settings

The present investigation took place during the daily reading and mathematics periods scheduled by the teachers in their regular classrooms. Curriculum materials over the three schools varied among commonly used curriculum programs. Teachers also used their own prepared materials to supplement these primary

materials. Academic periods ranged in length from 30 to 80 minutes and were generally longer in reading than in math, 60 and 30 minutes respectively. In five of the eight classrooms, the daily reading period preceded the math period.

Design

The first six teachers meeting the selection requirements were paired by grade level: two first, two second, and two third grade. One set of first, second, and third grade teachers (N=3) were assigned by toss of coin to be trained to implement PASS during their reading period, with their math period serving as a generalization baseline period. In counterbalanced fashion, the second group was assigned to be trained during their math period with reading period constituting the generalization baseline. The two remaining teachers volunteered as control subjects and received no formal training throughout the investigation.

Data Collection

Approximately 18 observers were trained to collect observation data during the reading and math sessions for all eight participating teachers. Observers were trained to use an 18-category, interval-by-interval recording system allowing recording of individual student behavior, teacher behavior, and class group behavior.

University students and individuals hired from the community were trained as observers in a 5-day workshop using the PASS Observer Training Manual (Greenwood, Nicholes, & Hops, Note 2) and videotaped simulations of classroom behavior. Observers were trained to an 85% agreement level on videotape scores prior to observing in the field.

Observers coded behavior during 5-second interval blocks signaled by an electronic timer clipboard designed for this purpose. Two observers were

assigned to each classroom session, and each observed a different set (N=6) of students once per 60 seconds. Teacher behavior and class group benavior was coded once every 10 seconds. Teachers' behavior definitions are presented in Table 1 and constituted the major dependent variables in this study.

Insert Table 1 About Here

Interobserver Agreement

Agreement checks were made among the 18 observers. To control for agreement differences among observer pairs, observers were randomly assigned to partners on a daily basis for agreement checks (Johnson & Bolstad, 1973). Individual checks, representing a 5-minute simultaneous observation by two observers, were analyzed on an interval-by-interval agreement basis. The percent agreement mean for the four teacher behavior codes (# agreements/#agreements + disagreements x 100) (N=318 checks) was 93% and ranged from 69 to 100% among checks.

Teacher Training

Meetings. Experimental teachers were trained to implement the PASS program in six 2-hour afterschool meetings as described by Greenwood, Hops, Delquadri, and Guild (1974) and as presented in the PASS Manual for Teachers (Greenwood, Delquadri, Hops, & Walker, Note 3). In each meeting, teachers read a prepared unit and completed a self-corrected quiz over the material. Next, the teachers discussed with their respective consultant the main points in each unit to demonstrate verbal competency with the concepts. The final part of each meeting was devoted to roleplaying of procedures to be implemented in the classroom and preparation of materials required. The basic skills covered in each unit were (a) Academic Survival Skills Concept, Program and Previous Results; (b) Specifying Academic Survival Skills for Your Classroom; (c) Recording Academic Survival Skills; (d) Improving Survival Skills with Group Rewards; (e) Using

Social Reinforcement to Improve Academic Survival Skills; and (f) Maintaining the Effects of PASS and Expanding the Program to Other Instructional Periods.

Consultant visits. The program consultants assisted the classroom teachers in implementing the PASS program by visiting on a regular basis while the program was established. The consultant was responsible for observing the teacher's implementation, answering questions about procedures, and providing feedback to the teacher. Specific responsibilities included assisting the teacher in introducing new program components, e.g., baseline, providing observational agreement checks with the teacher for classroom appropriate behavior as measured by the teacher, and providing feedback concerning the teacher's use of social consequences as reinforcers for appropriate behavior. After each class had reached the 80% appropriate behavior level and the teacher demonstrated a .8-1.0/minute or better praise rate, the consultant gradually began removing him/herself from the class by attending every other day, every third day, etc., until the teacher was in complete control of the program's operation.

Procedures

This study was comprised of three major program phases designed to analyze the effects of teacher training during the full program's operation, and concomitant effects in generalization periods. These phases were (a) Baseline, (b) Teacher Baseline, and (c) Full Program. These procedures were implemented at a time lag in multiple baseline fashion in each training period for each group of three experimental teachers.

Baseline. Data during this phase were collected to assess the operant level of teacher social consequences. No procedures were implemented nor were consultant visits made to the classrooms during this period. Teacher Training Meetings I-III occurred after school, 10 days prior to the teacher baseline phase.

Teacher baseline. During this phase the consultant and teacher set up the PASS clocklight recording instrument in each teacher's experimental instructional period. The clocklight recorded the percent of instructional time that the entire class was following the survival skill rules (developed in Meeting II) for appropriate class behavior. Students were instructed only that a new program was under way and that they would be further informed within three or four days. All other inquiries were ignored. Teachers began using the clocklight to establish an operant level for this variable.

Full program. The full program was initiated following the fourth and fifth teachers' meetings dealing with the use of group activity consequences and teacher social consequences to improve student behavior.

The students were presented with a list of survival skills rules which were discussed and roleplayed. Next, they were told that the clocklight operated when all were engaged in the survival skills and stopped when only one student was not. It was further explained that the class as a group could earn an activity if they exceeded their baseline average score. Students were allowed to select the activity for the day by raise of hand and the first session began. In subsequent sessions, the goal required to earn an activity was established using a schedule in the program manual. The schedule increased the goal each day the students demonstrated improvement (see Greenwood, Delquadri, Hops, & Walker, Note 3, for details). Once the class had reached the 80% appropriate behavior level, rewards were scheduled to follow several completed 80% periods. The number of periods required increased as goal requirements were achieved and the 80% level was maintained. Teachers adjusted goals backwards if failure occurred at any particular level.

To implement the procedures, a survival skills bulletin board was established in each classroom where the rules, group activities, recording sheets

and a class graph were posted. Following each session, the teacher computed the day's score and posted it on the graph for the class to see.

Prior to the first session using consequences, the consultant discussed the teacher's base rate level of appropriate and inappropriate social consequences previously recorded by the program consultants during previous phases. For appropriate consequences, a goal of at least 1.00/min was established overall with intermediate goals suggested by the consultant on a daily basis. In some cases, the consultant used praise cards to signal the teacher when to praise a student or the group during the training session. These cards were typically faded out within the first 5 days of the program. Following each session, the consultant reviewed the number of praises given by the teacher and graphed them. In this manner, the teacher could contrast improved praising days to previous baseline days, etc. Consultants praised teachers for matching or exceeding the praising goals agreed upon prior to each session and pointed out instances where the teacher's inappropriate consequence days were low. Praise feedback was designed to teach new praising tactics and improve the positive atmosphere within the classroom. On days when teachers increased inappropriate praises or failed to reach a goal, consultants simply showed the teacher the graphs, commented on what the problem might have been, and revised the goal for the next day. No fixed progress schedule was established for teachers; rather, it was worked out by each consultant and teacher team as the program progressed. As the teachers reached and maintained the 1.00 level of appropriate consequences, the consultant began decreasing visits and feedback.

Results

The primary dependent variables in this study were the proportion of intervals in which teacher approvals or disapprovals were recorded. Table 2

presents the phase means for each teacher across settings and phase conditions. The daily rates of approvals for each teacher are graphically presented in Figure 1.

Insert Figure 1 and Table 2 About Here

The phase mean levels in Table 2 show that all eight teachers had relatively low levels of both approvals and disapprovals during baseline ranging from .002 to .028. In several cases, teachers dispensed disapprovals at higher levels than approvals. Little change was noted at the teacher baseline condition when Teachers 1-6 began recording student behavior using the PASS procedures in the training instructional setting. Dramatic changes were noted, however, when the full program, including consultant signaling and feedback to teachers, was introduced for improving praise and approval rates. Increases were also noted for experimental teachers in their generalization settings. However, the increases were not of the same magnitude as those produced in training. Control teachers showed no systematic effect in either instructional period.

Insert Table 3 About Here

Table 3 summarizes the phase means for the six experimental teachers by training versus generalization periods. Differences among means using simple t-tests for correlated data indicated that for the training setting a significant difference ($p < .01$) was noted between both baseline means of .014 and .018, respectively, and the training mean of .075 Next, a smaller effect was noted in the generalization setting ($p < .05$); baseline means were .011 and .016, respectively, in contrast to a generalization mean of .027. Clearly, the generalization effect, while significantly improved from baseline, was only a third the magnitude of the effect in the training setting ($p < .01$).

The teacher use of disapprovals also remained at low levels during both baseline phases. The introduction of the PASS program in the training settings produced slight nonsignificant reductions in both settings. The greatest reduction (.003) occurred in the training setting in contrast to the generalization setting (.009, $p < .02$).

Discussion

This study clearly demonstrated that the training of teacher management procedures in one academic setting generalized to a second setting in which no procedures were in effect. The generalization effect was demonstrated to occur independently of the type of instructional setting, e.g., reading or math and to entirely depend upon the PASS procedures introduced into the training setting. The resulting generalization, while consistent over teachers, was only approximately one third the level produced during the training setting. In one case, e.g., Teacher 6, only increased variability was noted and not a systematic, stable improvement. These findings for across setting generalization effects appear consistent with the data reported by Horton (1975) and, in fact, show somewhat greater effects.

The question still remains, however, as to the functional utility of these generalized teacher skills. Are they sufficient to produce practical changes in student behavior in the generalization period? If they are not, then a more powerful training effect may be required to control student behavior in the generalization setting. We then might conclude as did Horton (1975) that effects are situation specific and what you teach is really all you get.

A second question involves delineating those variables in the program required to produce the generalization effect. While generalization of teacher behavior was produced in the present study, it was not possible given the present design to ascertain the component variables responsible for the effects other

than the full PASS program introduced in the training setting.

Thirdly, one may ask what are the minimal original training components required in the generalization period to increase the magnitude of teacher approval to the level produced in the training period? It may be more cost effective to introduce specific variables less costly than the entire program to increase teacher praise rates. Additional research will be required to determine precisely what those variables are and whether or not it is possible.

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Table 1

Definitions of Observational Codes

I. Approval (AP) - included any combination of:

A. Verbal approval including teacher statements of praise, appreciation, or satisfaction with the work, conduct, attitude, or performance of a student, group, or class.

B. Gestural approval including such behaviors as smiles, nodding, winking, clapping, making O.K. sign with fingers, dispensing stars or tokens, etc.

C. Physical approval including such positive physical conduct as hugs, pats, etc.

AP was not coded where teacher simply provided feedback about the correctness of an academic response unless gestural or physical approval was included with feedback.

II. Disapproval (DI) - included any combination of:

A. Verbal disapproval including statements of dislike, dismay, dissatisfaction, or disgust with work, appearance, or conduct.

B. Gestural disapproval including such behavior as frowning, shaking the head, shaking a finger, grimaces, etc.

C. Physical disapproval including such negative physical conduct as hitting, spanking, pulling hair of body, pinching, etc.

Again, DI was not coded for feedback like "No, that's not correct" unless accompanied by gestural or physical disapproval.

III. Verbal Interactions (VI) - audible statements directed at the subject or his group were not AP or DI. This included discussions, instructions, or conversations between teacher and subject, or subject's group.

IV. No Response (NR) - the teacher was not responding verbally, physically, or gesturally to the class or subject. NR was coded when the teacher was talking to another adult, worked at his or her desk, looked in a closet, left room, etc.

Table 2

Phase Means for Teacher (N=8) Social Consequences

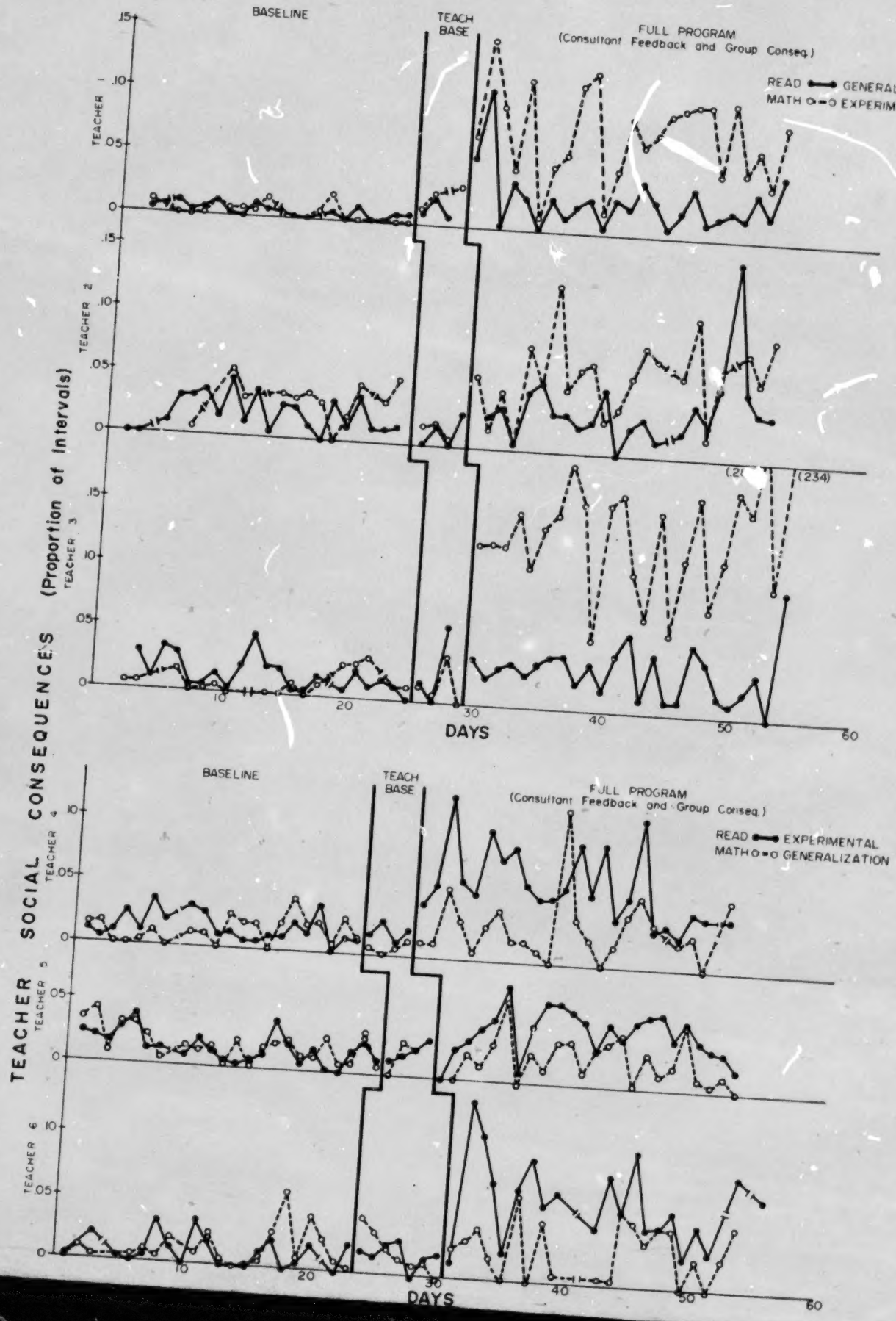
in Experimental, Generalization and Control Conditions

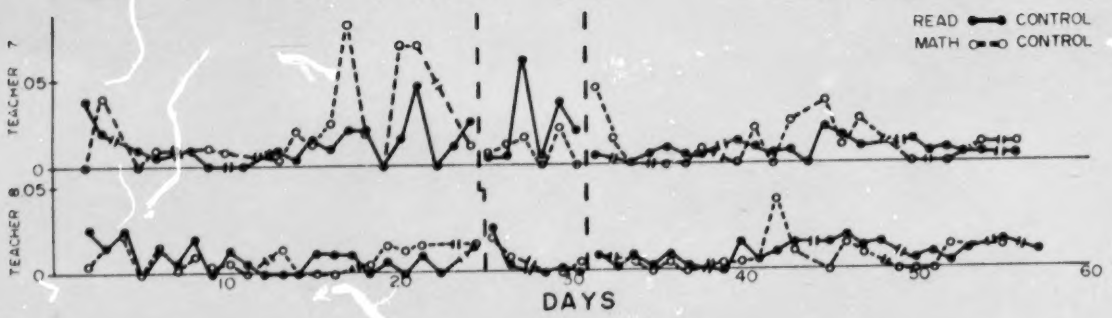
Teacher	Settings	Approval			Disapproval		
		Baseline	Teacher Baseline	Full Program	Baseline	Teacher Baseline	Full Program
1	Reading Generalization	.005	.010	.026	.020	.022	.011
	Math Experimental	.004	.020	.081	.011	.017	.003
2	Reading Generalization	.002	.011	.035	.011	.003	.010
	Math Experimental	.024	.015	.064	.020	.001	.003
3	Reading Generalization	.017	.028	.033	.028	.034	.016
	Math Experimental	.011	.018	.134	.032	.037	.005
4	Reading Experimental	.015	.017	.060	.006	.006	.004
	Math Generalization	.013	.005	.025	.006	.001	.003
5	Reading Experimental	.013	.020	.066	.014	.007	.005
	Math Generalization	.015	.025	.026	.015	.012	.012
6	Reading Experimental	.013	.019	.045	.005	.006	.003
	Math Generalization	.015	.018	.022	.006	.002	.007
7	Reading Control	.013	.025	.008	.010	.015	.008
	Math Control	.012	.021	.012	.005	.003	.007
8	Reading Control	.009	.008	.010	.010	.003	.004
	Math Control	.009	.010	.009	.009	.010	.007

Table 3

Experimental and Generalization Teachers' (N=6) Behaviors

		Baseline		Teacher Baseline		Full Program (Consultant Feedback + Group Consequences)
		$\bar{X}$	prob.	$\bar{X}$	prob.	$\bar{X}$
Approvals	Experimental	.014	(p=ns)	.018	(p<.01)	.075
	prob.	(p=ns)		(p=ns)		(p<.01)
	Generalization	.011	(p=ns)	.016	(p<.05)	.027
Disapprovals	Experimental	.014	(p=ns)	.012	(p=ns)	.003
	prob.	(p=ns)		(p=ns)		(p<.02)
	Generalization	.014	(p=ns)	.014	(p=ns)	.009


BASELINE
TEACH BASE
FULL PROGRAM
(Consultant Feedback and Group Conseq.)
READ ●—● GENERALIZATION
MATH ○--○ EXPERIMENTAL
TEACHER 1
TEACHER 2
TEACHER 3
(234)
SOCIAL CONSEQUENCES (Proportion of Intervals)
DAYS
BASELINE
TEACH BASE
FULL PROGRAM
(Consultant Feedback and Group Conseq.)
READ ●—● EXPERIMENTAL
MATH ○--○ GENERALIZATION
TEACHER 4
TEACHER 5
TEACHER 6
TEACHER SOCIAL CONSEQUENCES
DAYS


READ CONTROL
MATH CONTROL
TEACHER 7
TEACHER 8
.05
0
.05
0
10
20
30
40
50
60
DAYS